



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/371,776 08/10/99 CAMPBELL

D TRW(VSSIM)42

EXAMINER

PM82/1219

TAROLLI SUNDHEIM COVELL
TUMMINO & SZABO LLP
1111 LEADER BLDG
526 SUPERIOR AVENUE
CLEVELAND OH 44114-1400

DUNN, D
ART UNIT

PAPER NUMBER

3611
DATE MAILED:

12/19/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/371,776

Applicant(s)
Campbell et al.

Examiner
David Dunn

Group Art Unit
3611



☒ Responsive to communication(s) filed on Aug 10, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-22 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-22 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2, 4

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Art Unit: 3611

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. The disclosure is objected to because of the following informalities: on page 6, line 9, "side wall 44" should be --side wall 40--.

Appropriate correction is required.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "second output means" (claim 22) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-17 and 22 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled

Art Unit: 3611

in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

With respect to claims 1-17, the specification does not describe how one skilled in the art would make the apparatus, such that the "first portion" of the closure member is sheared from the "second portion". It is not clear why the rupture member would not rupture in the center, or split from a single point outward; it is not described how the rupture disk will only shear off the domed portion and not break at some other point.

With respect to claim 22, the specification does not describe a "first output means connected with said container for releasing inflation fluid from said inflator at a relatively high rate over a relatively short period of time; and second output means connected with said container for releasing inflation fluid from said inflator at a relatively low rate for a relatively long period of time." The specification does disclose a first output means (76), but does not disclose a second output means, or describe the rate of fluid release from the first output means. Note that "at least one openable portion" is already claimed and this cannot be claimed again as one of the "output means".

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 3611

It is unclear how the initiator causes the "support to collapse". It does not appear that the support collapses. Also, it does not appear that the closure member ruptures "under the pressure of sad inflation fluid"; it appears that the closure member ruptures due to the initiation of the initiator.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

8. Claims 18-20 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Hamilton (6,145,876).

Hamilton shows an apparatus for helping to protect an occupant of a vehicle that has a side structure, said apparatus comprising: an inflatable vehicle occupant protection device (see column 1, lines 15-30 and Figures 7-8) that is inflatable into a position between the side structure of the vehicle and a vehicle occupant; and an inflator (Figure 9-10) for inflating said inflatable vehicle occupant protection device and for maintaining said inflatable vehicle occupant protection device in an inflated condition for at least seven seconds (column 18, lines 50-56), said inflator containing a stored inflation fluid (174) under pressure, said inflation fluid consisting essentially of

Art Unit: 3611

helium (see column 2, line 50). Hamilton shows a fill tube (outer tube 96) located in the inflatable device. Hamilton also shows a container (174; Figure 10) for storing inflation fluid ; a rupturable closure member (234); and an initiator (142), which when actuated, causes the closure member to rupture (with 230) to allow inflation fluid to flow through the passage. With respect to claim 22, as best understood, Hamilton, shows the container having an openable portion, a first output means (214) for releasing fluid from the inflator at a high rate over a short period of time (this output is larger), and a second output (238) for releasing fluid at a low rate for a long period of time (this output is smaller than 214).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 3-10 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Day (3,648,898) in view of Zakula (5,564,740).

Day discloses an apparatus for providing inflation fluid to inflate an inflatable vehicle occupant protection device, said apparatus comprising: a container (10) storing inflation fluid under pressure, said container having an outlet passage (through 12); a rupturable closure member (16) fixed to said container (fixed to 14 by 18 and 20) and blocking flow of inflation fluid through

Art Unit: 3611

said passage; said rupturable closure member having a first portion (center portion of 16) deformed into the opening by the pressure of the inflation fluid and a second ring-shaped portion (outer portion of 16) encircling said first portion; and an initiator which, when activated, ruptures the closure member (32). With respect to claim 6, the initiator (32) extends into the hollow member (when activated). With respect to claim 7, it is inherent that the closure member is work hardened due to plastic deformation (see domed shape); also with respect to this claim, Day shows the same final product, and the method step is not germane to the patentability of the apparatus claim. The support (18) includes a circular rim defining an opening into the chamber, the rim having a surface engaging the disk.

Day fails to show the closure member rupturing by shearing the first portion from the second portion.

Zakula teaches an inflator with a rupturable closure member (16) with an initiator (32) which ruptures the closure member (see Figure 3) by shearing the first portion (142) from the second portion (124, 128). When the first portion is sheared, the inflation fluid causes the second portion to petal away from the support and open the passage (see Figure 3). The second portion blocks passage prior to petaling away (see Figure 2). With respect to claim 8, Zakula shows the burst disk having a third portion (120) welded to the container (see column 3, line 65- column 4, line 1). With respect to claim 10, Zakula teaches an inflatable protection device for inflation between an occupant and a side structure of the vehicle (see column 1, line 10-22).

Art Unit: 3611

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Day with the teachings of Zakula in order to provide a simplified striker to puncture the burst disk.

11. Claims 2 and 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Day in view of Zakula as applied to claim 1 above, and further in view of Halas et al. (6,010,153).

The combination of Day and Zakula is discussed above and fails to show the rupture disk being flat prior to the inflation fluid being introduced. While the disk of Day is inherently deformed to a degree due to pressure of the gas, Day does not specifically discuss the disk being plastically deformed due to the pressure of the gas.

Halas et al. teaches an inflator in which the rupture disk is plastically deformable due to the pressure exerted by the gas in the storage chamber (see column 3, lines 39-41). As such, it is inherent that the disk would be flat prior to introduction of the inflation gas.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Day and Zakula with the teachings of Halas et al. in order to provide an improved disk that would provide increased flexibility due to pressure changes in the container (due to temperature changes, etc.).

12. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Day in view of Zakula as applied to claims 10 above, and further in view of Yamaji et al. (6,056,316).

The combination of Day and Zakula is discussed above and fails to show the airbag maintained inflated for at least seven seconds.

Art Unit: 3611

Yamaji et al. teaches a side air bag that has a low permeability and is able to remain inflated for about 5 seconds (see column 4, lines 59-64).

It would be obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Day and Zakula with the teachings of Yamaji et al. such that the airbag remained inflated for a long period of time such as seven seconds. As Yamaji teaches keeping the airbag inflated for several seconds, it would have been obvious to provide an airbag that could stay inflated for seven seconds by changing the size of the airbag, amount of inflation gas, or decreasing the permeability of the airbag.

13. As best understood, claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamilton in view of Day.

Hamilton is discussed above and fails to show a support for supporting the closure member.

As discussed above, Day teaches a support member (18) for supporting a rupture member.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hamilton with the teachings of Day in order to provide additional support to better hold the rupture member.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Goetz shows a rupture member supported by a support member. Popek shows an

Art Unit: 3611


inflator in which the center dome of the rupture disk is sheared off. Headly shows a supported rupture disk of interest.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Dunn whose telephone number is (703) 305-0049. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann, can be reached on (703) 306-4115. The fax phone number for this Group is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.


DAVID R. DUNN
PATENT EXAMINER


J. J. SWANN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600